

# Recent IBM Patents

## June 1965

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-----------|
| Matrix Positioning Device . . . . .                                                                                                                                      | P. Betts . . . . .                                           | 3,186,317 |
| System for Analyzing the Spatial Distribution of a Function . . . . .                                                                                                    | W. K. Taylor . . . . .                                       | 3,187,304 |
| Character Recognition Systems . . . . .                                                                                                                                  | F. C. Chiang . . . . .                                       | 3,187,305 |
| Computer Memory . . . . .                                                                                                                                                | P. D. Dodd and G. L. Owens . . . . .                         | 3,187,309 |
| High Speed Spark Discharge Print Device . . . . .                                                                                                                        | B. J. Greenblott and R. J. Hart . . . . .                    | 3,187,669 |
| Electro-Fluid Apparatus . . . . .                                                                                                                                        | R. E. Norwood . . . . .                                      | 3,187,762 |
| Voice Inflection Detection Circuit . . . . .                                                                                                                             | G. L. Clapper . . . . .                                      | 3,188,388 |
| Integrating Means . . . . .                                                                                                                                              | J. R. Quick, Sr. . . . .                                     | 3,188,455 |
| Photosensitive Electro-Optical Calculating Machine . . . . .                                                                                                             | T. I. Ress . . . . .                                         | 3,188,474 |
| Multiperture-Core Logic Circuit . . . . .                                                                                                                                | R. Betts . . . . .                                           | 3,188,480 |
| Clamp Level Control Circuit . . . . .                                                                                                                                    | R. J. Bymers . . . . .                                       | 3,188,492 |
| Read-Out Driver and Level Setter Circuit . . . . .                                                                                                                       | M. P. Xylander . . . . .                                     | 3,188,494 |
| Protective Circuit for a Transistor Gate . . . . .                                                                                                                       | M. P. Xylander . . . . .                                     | 3,188,499 |
| Electrical Circuit Modular Assembly . . . . .                                                                                                                            | C. R. Yungkurth . . . . .                                    | 3,188,523 |
| Saturable Reactor Voltage Regulator with Series Connected<br>Main and Control Inductance Windings . . . . .                                                              | P. Essinger . . . . .                                        | 3,188,555 |
| Electrostatic Printer Apparatus . . . . .                                                                                                                                | M. Preisinger and W. Scheerer . . . . .                      | 3,188,649 |
| Opto-Electrical Scanning System for Gray Level Detection . . . . .                                                                                                       | K. M. Trampel and H. H. Jensen . . . . .                     | 3,188,907 |
| Hammer Control Mechanism for Record Marking Machine . . . . .                                                                                                            | G. H. Schacht . . . . .                                      | 3,188,946 |
| Keyboard . . . . .                                                                                                                                                       | C. P. Barnard and D. H. Heiser . . . . .                     | 3,189,153 |
| D. C. Power Distribution System . . . . .                                                                                                                                | E. J. Rymaszewski, J. Riseman and L. A. Harlow . . . . .     | 3,189,847 |
| Data Handling Mechanism . . . . .                                                                                                                                        | W. F. Beausoleil and D. J. Galage . . . . .                  | 3,189,872 |
| Transformer-Coupled Bistable Semiconductor Device Memory . . . . .                                                                                                       | W. D. Pricer and H. P. Wolff . . . . .                       | 3,189,876 |
| Electronic Memory without Compensated Read Signal . . . . .                                                                                                              | W. D. Pricer and H. P. Wolff . . . . .                       | 3,189,877 |
| Negative Resistance Memory Circuit . . . . .                                                                                                                             | W. D. Pricer . . . . .                                       | 3,189,878 |
| Vapor Deposition Process to Form a Retrograde Impurity<br>Distribution P-N Junction Formation Wherein the Vapor<br>Contains Both Donor and Acceptor Impurities . . . . . | R. L. Anderson, J. C. Marinace and M. J. O. Ingham . . . . . | 3,190,773 |
| Process for Making Capacitors and Capacitive Circuit Elements . . . . .                                                                                                  | L. I. Maissel, N. W. Silcox, and C. L. Standley . . . . .    | 3,190,819 |
| Memory Readout and Summing System . . . . .                                                                                                                              | H. Fleisher and R. I. Roth . . . . .                         | 3,191,012 |
| Mixed Code Calculator . . . . .                                                                                                                                          | R. I. Roth and H. Fleisher . . . . .                         | 3,191,014 |
| Photoconductive Matrix Switching Plugboard . . . . .                                                                                                                     | A. J. Critchlow . . . . .                                    | 3,191,040 |
| Coplanar Thin Magnetic Film Shift Register . . . . .                                                                                                                     | W. Ghisler and S. Middelhoek . . . . .                       | 3,191,054 |
| Superconductive Transmission Line . . . . .                                                                                                                              | J. C. Swihart and D. R. Young . . . . .                      | 3,191,055 |
| Superconductive Transmission Line Circuits . . . . .                                                                                                                     | J. L. Anderson . . . . .                                     | 3,191,056 |
| D. C. Transformer for Superconductive Circuitry . . . . .                                                                                                                | R. A. Connell and D. J. Quinn, III . . . . .                 | 3,191,136 |
| Specimen Identification Apparatus with Means for Altering<br>Stored Specimen Reference Functions . . . . .                                                               | M. C. Andrews . . . . .                                      | 3,191,149 |
| Specimen Identification System with Adaptive and Non-<br>Adaptive Storage Comparators . . . . .                                                                          | M. C. Andrews . . . . .                                      | 3,191,150 |
| Logical Circuits and Memory . . . . .                                                                                                                                    | R. R. Seeber, Jr. and A. J. Scriver, Jr. . . . .             | 3,191,155 |
| Random Memory with Ordered Read Out . . . . .                                                                                                                            | R. I. Roth . . . . .                                         | 3,191,156 |
| Superconductor Circuit . . . . .                                                                                                                                         | D. R. Young . . . . .                                        | 3,191,159 |
| Magnetic Memory Noise Reduction System . . . . .                                                                                                                         | D. J. Crawford . . . . .                                     | 3,191,163 |
| Method of Forming and Pulling Contact Terminals into an<br>Electrical Receptacle . . . . .                                                                               | A. H. Johnson . . . . .                                      | 3,191,271 |
| Two Dimensional Bandwidth Reduction Apparatus for Raster<br>Scanning Systems . . . . .                                                                                   | W. R. Remley . . . . .                                       | 3,192,315 |
| Electronic Lip Reader . . . . .                                                                                                                                          | E. G. Nassimbene . . . . .                                   | 3,192,321 |
| Binary Multiplier for Skipping a String of Zeros or Ones . . . . .                                                                                                       | O. L. Mac Sorley . . . . .                                   | 3,192,363 |
| Binary Divider . . . . .                                                                                                                                                 | O. L. Mac Sorley . . . . .                                   | 3,192,364 |
| High Speed Binary Divider . . . . .                                                                                                                                      | J. R. Stewart . . . . .                                      | 3,192,365 |
| Bistable Circuit Having an Adjustable Phase Shifter Responsive<br>to Output Signal . . . . .                                                                             | A. H. Nethercot, Jr. . . . .                                 | 3,192,397 |
| Gated Variable Frequency Oscillator . . . . .                                                                                                                            | P. I. Prentky and H. Zibkoff . . . . .                       | 3,192,477 |
| Frequency Flip-Flop . . . . .                                                                                                                                            | W. N. Carroll . . . . .                                      | 3,192,484 |
| Gated Diode Selection Drive System . . . . .                                                                                                                             | R. J. Flaherty . . . . .                                     | 3,192,510 |
| Magnetic Information Recording and Reproduction Without<br>Precise Synchronization Requirements . . . . .                                                                | C. O. Pingry, III . . . . .                                  | 3,192,515 |

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| Printer Control System . . . . .                                                                                                                                               | V. C. Martin . . . . .                                                    | 3,192,854 |
| Analogue to Binary Conversion Apparatus . . . . .                                                                                                                              | G. L. Clapper . . . . .                                                   | 3,193,668 |
| Driver Circuit . . . . .                                                                                                                                                       | I. G. Akmenkalns . . . . .                                                | 3,193,691 |
| Pulse Generating Circuit . . . . .                                                                                                                                             | D. R. Daykin . . . . .                                                    | 3,193,693 |
| Bistable Biasing of Tunnel Diodes . . . . .                                                                                                                                    | W. G. Crouse . . . . .                                                    | 3,193,703 |
| Bistable Junction Transistor . . . . .                                                                                                                                         | R. E. Swanson . . . . .                                                   | 3,193,737 |
| Gain Control Means . . . . .                                                                                                                                                   | C. A. Bogdan, Jr. and F. C. Fitzgerald . . . . .                          | 3,193,759 |
| Frequency Selective Amplifier . . . . .                                                                                                                                        | G. L. Clapper . . . . .                                                   | 3,193,774 |
| Method and Apparatus for Verifying Location and Controls<br>in Magnetic Storage Devices . . . . .                                                                              | D. P. Shoultes . . . . .                                                  | 3,193,800 |
| Electrical Sampling Switch . . . . .                                                                                                                                           | A. W. Vinal . . . . .                                                     | 3,193,807 |
| Magnetic Transducing Apparatus . . . . .                                                                                                                                       | L. A. Knox . . . . .                                                      | 3,193,821 |
| Punch Mechanism . . . . .                                                                                                                                                      | D. P. Darwin . . . . .                                                    | 3,194,494 |
| Reflex Copying Method Using Heat Developable Light<br>Scattering Materials . . . . .                                                                                           | R. Baus, Jr. and R. J. Lahr . . . . .                                     | 3,194,659 |
| Reflex Copying Method . . . . .                                                                                                                                                | R. J. Lahr . . . . .                                                      | 3,194,660 |
| High Speed Logic Circuits . . . . .                                                                                                                                            | E. J. Rymaszewski . . . . .                                               | 3,194,974 |
| Regulated Power Supply . . . . .                                                                                                                                               | E. R. McNulty and E. A. Menard . . . . .                                  | 3,195,036 |
| Associative Memory Match Indicator Control . . . . .                                                                                                                           | F. A. Behnke . . . . .                                                    | 3,195,109 |
| Data Storage Timing System . . . . .                                                                                                                                           | H. K. St. Clair . . . . .                                                 | 3,195,118 |
| Method of Influencing Minority Carrier Lifetime in the Semi-<br>conductor Body of a PN Junction Device . . . . .                                                               | W. H. Miller, A. J. Rideout and T. K. Worthington . . . . .               | 3,195,218 |
| Optical Specimen Identification Filtering Techniques . . . . .                                                                                                                 | L. P. Horwitz and G. L. Shelton, Jr. . . . .                              | 3,195,396 |
| Control System for Paper-Making Machines . . . . .                                                                                                                             | L. H. Wirtz . . . . .                                                     | 3,196,072 |
| Method of Automatically Etching an Esaki Diode . . . . .                                                                                                                       | E. M. Davis, Jr. . . . .                                                  | 3,196,094 |
| Local Amplitude Detector . . . . .                                                                                                                                             | L. P. Horwitz, J. Reines and G. L. Shelton, Jr. . . . .                   | 3,196,212 |
| Keyboard Having a Stretchable Sinuous Contacting Member . . . . .                                                                                                              | B. G. Gardineer, Jr. . . . .                                              | 3,196,219 |
| Counter Step Checking . . . . .                                                                                                                                                | L. E. Belcastro . . . . .                                                 | 3,196,258 |
| Adder . . . . .                                                                                                                                                                | J. M. Pugmire . . . . .                                                   | 3,196,260 |
| Superconductive Circuits . . . . .                                                                                                                                             | E. S. Schlig . . . . .                                                    | 3,196,281 |
| Thin-Cryotron with Critical Gate Thickness . . . . .                                                                                                                           | W. B. Ittner, III . . . . .                                               | 3,196,282 |
| Logical Signal Processing Apparatus . . . . .                                                                                                                                  | L. P. Hunter . . . . .                                                    | 3,196,284 |
| Signal-Selective Bistable Semiconductor Latch . . . . .                                                                                                                        | A. J. Wolterman . . . . .                                                 | 3,196,287 |
| High Density Electronic Package . . . . .                                                                                                                                      | W. J. Richardson . . . . .                                                | 3,196,318 |
| Multilevel Vestigial Sideband Suppressed Carrier Data<br>Transmission System . . . . .                                                                                         | E. Hopner, D. L. Critchlow and R. H. Dennard . . . . .                    | 3,196,352 |
| Variable Pattern Pulse Generator . . . . .                                                                                                                                     | J. D. Bagley . . . . .                                                    | 3,196,358 |
| Ultrasonic Amplifier . . . . .                                                                                                                                                 | W. P. Dumke and R. R. Haering . . . . .                                   | 3,196,384 |
| Specimen Identification Utilizing Autocorrelation Functions . . . . .                                                                                                          | L. P. Horwitz and G. L. Shelton, Jr. . . . .                              | 3,196,392 |
| Specimen Identification Techniques Employing Non-Linear<br>Functions of Autocorrelation Functions . . . . .                                                                    | L. P. Horwitz and G. L. Shelton, Jr. . . . .                              | 3,196,394 |
| Character Recognition Systems Employing Autocorrelation<br>Specimen Identification Techniques Employing Binary Non-<br>Linear Functions of Autocorrelation Functions . . . . . | M. B. Clowes and J. R. Parks . . . . .                                    | 3,196,395 |
| Specimen Identification Techniques Employing Nth-Order<br>Autocorrelation Functions . . . . .                                                                                  | J. Reines, L. P. Horwitz and G. L. Shelton, Jr. . . . .                   | 3,196,396 |
| Pattern Recognition Preprocessing Techniques . . . . .                                                                                                                         | H. H. Goldstine, L. P. Horwitz and G. L. Shelton, Jr. . . . .             | 3,196,397 |
| Specimen Identification Techniques Employing Selected<br>Functions of Autocorrelation Functions . . . . .                                                                      | H. B. Baskin . . . . .                                                    | 3,196,398 |
| Printer Buffer Load and Read Control Means . . . . .                                                                                                                           | L. A. Kamensky and C-N. Liu . . . . .                                     | 3,196,399 |
| Variable Capacitance Information Storage System . . . . .                                                                                                                      | R. J. Furlong and J. D. Calvert . . . . .                                 | 3,196,404 |
| Superconductive Storage Circuits . . . . .                                                                                                                                     | J. B. Gunn . . . . .                                                      | 3,196,405 |
| Quantized Flux Cryogenic Device . . . . .                                                                                                                                      | A. E. Brennemann and N. H. Meyers . . . . .                               | 3,196,408 |
| Quantized Flux Cryogenic Device . . . . .                                                                                                                                      | L. P. Horwitz . . . . .                                                   | 3,196,411 |
| Non-Destructive Magnetic Memory . . . . .                                                                                                                                      | R. A. Connell, L. P. Horwitz, D. J. Quinn and<br>D. P. Seraphim . . . . . | 3,196,412 |
| Machine Control Devices . . . . .                                                                                                                                              | M. Teig . . . . .                                                         | 3,196,413 |
| Real Time Control System for Processing Main and<br>Incremental Quantities . . . . .                                                                                           | R. Seibel . . . . .                                                       | 3,197,010 |
| Electronic Data Processing Machine . . . . .                                                                                                                                   | R. J. Urquhart . . . . .                                                  | 3,197,621 |
| Electro-Optical Plane Aligning Apparatus . . . . .                                                                                                                             | J. A. Haddad, R. K. Richards, N. Rochester and<br>H. D. Ross, Jr. . . . . | 3,197,624 |
| Random or Associative Access Memory . . . . .                                                                                                                                  | J. Morris . . . . .                                                       | 3,197,643 |
| Pattern Recognition System . . . . .                                                                                                                                           | J. L. Anderson . . . . .                                                  | 3,197,653 |
| Data Processing System . . . . .                                                                                                                                               | R. A. Leightner and E. N. Schroeder . . . . .                             | 3,197,736 |
| Magnetic Recording System . . . . .                                                                                                                                            | E. J. Raser and W. H. Thomas . . . . .                                    | 3,197,738 |
| Data Storage and Processing Machine . . . . .                                                                                                                                  | E. G. Newman . . . . .                                                    | 3,197,739 |
| Magnetic Field Sensing Apparatus . . . . .                                                                                                                                     | J. M. Terlato and B. M. Updike . . . . .                                  | 3,197,740 |
| Analog-to-Digital Converter Utilizing Electrostatic Means . . . . .                                                                                                            | G. E. Dailey . . . . .                                                    | 3,197,748 |
|                                                                                                                                                                                | M. E. Arthur and F. F. Myers . . . . .                                    | 3,197,761 |